

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include the addition of Figs. 7E, 11, 12, 13A, 13B, and 14-22 as described below. Sheets 10/18, 11/18, 12/18, 13/18, 14/18, 15/18, 16/18, 17/18, and 18/18 are new.

Sheet 10/18, including Fig. 7E, has been added;

Sheet 11/18, including Fig. 11, has been added;

Sheet 12/18, including Fig. 12, has been added;

Sheet 13/18, including Figs. 13A and 13B, has been added;

Sheet 14/18, including Figs. 14 and 15, has been added;

Sheet 15/18, including Figs. 16 and 17, has been added;

Sheet 16/18, including Figs. 18 and 19, has been added;

Sheet 17/18, including Figs. 20 and 21, has been added; and

Sheet 18/18, including Fig. 22, has been added.

Attachments: New Sheets 10/18, 11/18, 12/18, 13/18, 14/18, 15/18, 16/18, 17/18, and 18/18.

REMARKS

Claims 1-27 are currently pending in this application, as amended.

Fig. 7E has been added to show an electric motor connected to the movable magnet. Specifically, the motor 50 includes its power supply line 51 and a shaft 52 coupled to the support 40. Support for this added figure can be found, for example, at least in original Fig. 7C; original claim 9; and at paragraph [0037] in the substitute Specification. It is well settled that the original claims are part of the original disclosure. *See e.g.*, MPEP §2163.06 (“...information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter”).

Fig. 11 has been added to show a pneumatic drive connected to the movable magnet. Specifically, the pneumatic drive 60 includes a drive piston 62, disposed within a pneumatic cylinder 61 with inlet/outlet pipes 62, is coupled to the movable magnet 15. Support for the added figure can be found, for example, at least in original Fig. 5; original claim 9; and at paragraph [0037] in the substitute Specification.

Fig. 12 has been added to show rotation of the magnetizable bars. Specifically, each of the bars 7a, 7b, 7c is seated in a respective bearing 71a, 71b, 71c and is coupled to a respective cogwheel 72a, 72b, 72c that engage one another. A drive unit 70 having a motor 74 with a shaft 73 turns a fourth cogwheel 72d, which translates rotation to the other three cogwheels 72a, 72b, 72c. Support for this added figure can be found, for example, at least in original Figs. 1A-1B; original claim 15; and at paragraph [0040] of the substitute Specification.

Figs. 13A-13B have been added to show vertical movement of a sample holder. Specifically, the sample holder 11 is moved vertically by a control unit 90 coupled to a drive unit 80 to control the action of a motor 81. The motor 81 drives a belt 82 that activates a cogwheel 85 that engages a gear rack 83 coupled to the sample holder 11 in order to move the sample holder 11 upward or downward. The drive unit 80 also includes a sensor or contact 86 to generate a signal when the sample holder 11 is in a raised position. Support for the added figures

may be found, for example, at least in original Figs. 1A-1B; original claims 21-22; and at paragraph [0042] of the substitute Specification.

Fig. 14 has been added to show a program-controlled laboratory robot system. Specifically, the robot system 100 includes the holder 11 carrying containers 9a, 9b, 9c having a plurality of depressions 10. Program-controlled device 101 transports the holder 11 via rotation of drive rollers 102, 103. Support for the added figure can be found, for example, at least in original Fig. 9; original claim 20; and at paragraph [0045] in the substitute Specification.

Fig. 15 has been added to show a program-controlled processor 110 controlling the electric motor 50. Support for the added figure can be found, for example, at least in original Fig. 7C; original claim 22; and at paragraph [0046] in the substitute Specification.

Fig. 16 has been added to show the program-controlled processor 110 controlling the electromotor 74. Support for the added figure can be found, for example, at least in original Figs. 1A-1B; original claim 22; and at paragraph [0046] in the substitute Specification.

Fig. 17 has been added to show movement of the head piece. Specifically, the head piece 8 is mounted on guide rails 120, 121 for movement in a vertical plane. The head piece 8 is connected to an electric motor 122 via a driving rod 125, hinges 124, 126, and a driving disk 123, wherein the motor 122 is controlled by the program-controlled processor. Support for the added figure can be found, for example, at least in original claim 22; and at paragraph [0046] in the substitute Specification.

Fig. 18 has been added to show movement of the holder. Specifically, the holder 11 is mounted on guide rails 130, 131 for movement in a vertical plane. The holder 11 is connected to an electric motor 132 via a driving rod 135, hinges 134, 136, and a driving disk 133, wherein the motor 132 is controlled by the program-controlled processor. Support for the added figure can be found, for example, at least in original claim 22; and at paragraph [0046] in the substitute Specification.

Fig. 19 has been added to show a thermostatable cooling or heating means 140 under common control by the program-controlled processor 110 via line 141. Support for the added figure can be found, for example, at least in original Fig. 7C; original claim 23; and at paragraph [0048] in the substitute Specification.

Fig. 20 has been added to show a pipetting station 150 connected to the program-controlled processor 110 via line 151. Support for the added figure can be found, for example, at least in original Fig. 9; original claim 23; and at paragraph [0048] in the substitute Specification.

Fig. 21 has been added to show suction means 160, including a suction pump 162, connected to the program-controlled processor 110 via line 161. Support for the added figure can be found, for example, at least in original Fig. 9; original claim 23; and at paragraph [0048] in the substitute Specification.

Fig. 22 has been added to show an analytic apparatus 170 with a light emitting device 173 and a measuring detecting device 170, 172. The analytic device 170 is coupled to the program-controlled processor 110 via line 171. Support for the added figure can be found, for example, at least in original Fig. 9; original claim 23; and at paragraph [0048] in the substitute Specification.

Accordingly, no new matter has been added by the added figures, and entry of the added figures is respectfully requested.

Paragraphs have been added after paragraphs [0063] and [0066] of the substitute Specification to provide brief descriptions of the newly added figures. Paragraphs [0065] and [0066] have been amended for formality purposes to accommodate the new paragraphs described above. Paragraphs [0075] and [0077] have been amended and new paragraphs between paragraphs [0072] and [0073], between paragraphs [0073] and [0074], after paragraph [0080], have been added to conform the detailed description to the drawing amendments and additions described above. Support for these amendments can be found, for example, at least in original Figs. 1A-1B, 5, 7C, and 9; original claims 9, 15, and 20-23; and at paragraphs [0037], [0040],

[0042], [0045]-[0046], and [0048] of the substitute Specification. Accordingly, no new matter has been added by the amendments to the Specification, and entry of the amendments is respectfully requested.

Claims 24-26 have been withdrawn by the Examiner for being directed to a non-elected invention. Claim 5 has been amended solely to better clarify the motion of the movable magnet into and out of the magnetic circuit. Support for the amendment can be found, for example, at least in the substitute Specification at paragraphs [0024]-[0025]. Claim 8 has been amended solely to conform to the changes in claim 5. Claim 17 has been amended solely to conform to the language of claim 1 regarding at least one magnetizable bar. Claim 20 has been amended solely to correct a typographical error. Claim 22 has been amended solely to better clarify that the control of functions by open-loop or closed-loop control or the coordination of two functions with one another is performed by the program-controlled processor. Support for the amendment can be found, for example, at least in the substitute Specification at paragraph [0046]. Accordingly, no new matter has been added by the amendments to the claims, and entry of such amendments is respectfully requested.

Restriction Requirement

Applicant confirms election of group I, including claims 1-23 and 27, with traverse.

The Examiner asserts that the special technical feature is “a magnetic device using two limbs with an air gap and a head piece which contains a magnet bar,” which allegedly does not provide a contribution over the prior art. The Examiner relies on German Patent Publication No. DE 101 17 659 (Franzreb)¹ to dismiss the contribution of Applicant’s claimed invention. However, Applicant respectfully disagrees with the Examiner’s characterization of Franzreb.

The Examiner has equated the “magnet bar (9)” of Franzreb with the magnetizable bar in claims 1 and 24, which is incorrect. Claims 1 and 24 clearly call for (1) a movable permanent

¹ The Examiner relies on U.S. Patent No. 7,223,345 as an English language equivalent to Franzreb’s German publication and to the International Publication No. WO 02/081092 cited in the prior art rejections. Accordingly, all citations to Franzreb in this response will rely on portions of the ‘345 patent.

magnet, and (2) a magnetizable bar disposed vertically in a fixed or movable manner on the head piece. The permanent magnet and magnetizable bar are two separate and distinct elements arranged at different positions on the device and which perform different functions. The “magnet bar (9)” of Franzreb is explicitly recited as a “permanent magnet.” (Col. 4, lines 1-2, 9-10, 42-43; Fig. 1). The permanent magnet 9 cannot simultaneously be two different elements in the device, and Franzreb therefore lacks the magnetizable bar called for by claims 1 and 24.

Further, in claim 1 the magnetizable bar is disposed on a head piece which is arranged on one of the two poles of the limbs. The permanent magnet 9 of Franzreb is not disposed on either of the two poles, as evidenced by Fig. 1, but rather is remotely located to the left of the poles. Still further, claim 24 calls for the magnetizable bar to be immersed in a liquid mixture. In Franzreb, the fluid medium 2 is circulated within the conduit 4. (Col. 3, lines 54-62). Since the permanent magnet 9 is placed outside of the conduit 4, the permanent magnet can never be immersed in the medium 2. The permanent magnet 9 in Franzreb is used as a rotor (col. 4, lines 9-10), not for immersion.

For at least the reasons described above, Applicant believes that the provision of a magnetizable bar and a permanent magnet as separate elements is a contribution over the cited prior art of Franzreb, because Franzreb teaches only one of the elements (i.e., the permanent magnet). Applicant therefore respectfully traverses the restriction requirement and requests reconsideration and reinstatement of claims 24-26. However, as indicated above, Applicant has, in accordance with 37 C.F.R. § 1.143, confirmed election of group I, including claims 1-23 and 27.

Objection to the Drawings

The Examiner objected to the drawings for failing to show every feature of the invention specified in the claims, namely, the electric motor, pneumatic or hydraulic drive of claim 9; the electromotive drive of claim 15; program controlled laboratory robot system of claim 20; the control unit of claim 21; the program controlled processor and associated connections and sensors for control of claim 22; and the heating or cooling means, pipetting station, suction

means, shaking or intermixing means, and photometric or luminescence analytical means of claim 23.

Fig. 7E has been added to show the electric motor of claim 9. Fig. 11 has been added to show the pneumatic drive of claim 9. Fig. 12 has been added to show the electromotive drive of claim 15. Fig. 14 has been amended to show the program-controlled laboratory robot system of claim 20. Figs. 13A-13B have been added to show the control unit of claim 21 and certain of the features of claim 22 related to control. Figs. 15-17 have been added to show features of claim 22 related to control. Fig. 18 has been added to show features of claim 22 related to control and the shaking or intermixing means of claim 23. Figs. 19-22 have been added to respectively show the heating or cooling means, pipetting station, suction means, and photometric or luminescence analytical means of claim 23. The Specification has been amended to properly conform to the claims and described the above-listed features as they appear in the new drawings.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Claim 5 was rejected under 35 U.S.C. § 112, second paragraph as being indefinite because the phrase “from outside and then again out of” is unclear. Claim 5 has been amended to delete the quoted language and to clarify that the movable magnet has a first position in which the movable magnet is located within the magnetic circuit, and a second position in which the movable magnet is located outside of the magnetic circuit. Applicant therefore respectfully requests reconsideration and withdrawal of the rejection of claim 5 for indefiniteness.

Claim 17 was rejected under 35 U.S.C. § 112, second paragraph as being indefinite because the phrase “the bars” lacked proper antecedent basis. Claim 17 has been amended to change “the bars” to “the at least one magnetizable bar.” Applicant therefore respectfully requests reconsideration and withdrawal of the rejection of claim 5 for indefiniteness.

Claim 22 was rejected under 35 U.S.C. § 112, second paragraph as being indefinite because the specific structure imparted by the program-controlled processor was unclear. Claim 22 has been amended to more clearly describe the program-controlled processor and its

relationship to the overall device. Applicant therefore respectfully requests reconsideration and withdrawal of the rejection of claim 22 for indefiniteness.

Allowable Claims

Applicant would like to thank the Examiner for the indication that claims 11, 15, and 17-21 are allowable. However, Applicant is not rewriting the claims into independent form at this time because it is believed that independent claim 1 distinguishes over the cited prior art.

Claim Rejections Under 35 U.S.C. § 102(b)

Claims 1-10, 12-13, 22, and 27 have been rejected under 35 U.S.C. § 102(b) as being anticipated by WO 02/081092 (Franzreb). The Examiner asserts that Franzreb discloses a device for separating magnetic or magnetizable particles from a liquid using a magnetic field, and that the device includes all of the elements of the claims listed above. Applicant respectfully requests that the rejection of claims 1-10, 12-13, 22, and 27 be withdrawn for at least the following reasons.

Claim 1 calls for a head piece arranged in a fixed or detachable manner on one of the two poles and at least one magnetizable bar disposed vertically in a fixed or movable manner on the head piece. Franzreb discloses a magnetic circuit 5 with flux conducting sections 5a, 5b each having a pole face 6 between which a pipe system directs a fluid medium 2 for filtering of magnetizable particles. A filter 8 is disposed in a filter chamber 7 between the pole faces 6. (Col. 3, line 54-col. 4, line 4). Further, “[t]he entire section of the magnetic circuit 5 is always separated from the fluid medium and therefore sealed, whereby the pipe system with the feed 3 and return 4 is surrounded by the magnetic circuit 5 in a compact manner.” (Col. 4, lines 5-8) (emphasis added).

According to claim 1 of the present application, the head piece is a separate element that is attached, either fixedly or detachably, to one of the two poles. To the extent the Examiner asserts that the pole faces 6 in Franzreb correspond to the head piece of claim 1 and the filter 8 corresponds to the magnetizable bar, the pole faces 6 are simply the exposed surfaces of the flux conducting sections 5a, 5b, and are therefore not separate elements that must be attached to the

flux conducting sections 5a, 5b. However, even if one of the pole faces 6 of Franzreb could be considered to correspond to the head piece of claim 1, Franzreb still lacks the element of a magnetizable bar disposed vertically on the head piece. The Examiner points to the filter 8 as corresponding to the magnetizable bar of claim 1, but neglects the fact that the filter 8 is disposed within a filter chamber 7 in the pipe system. The filter 8 is not disposed fixedly or movably on either of the pole faces 6. Franzreb explicitly states that the pipe system, in which the filter 8 is contained within the filter chamber 7, is sealed from the rest of the magnetic circuit 5 to protect the medium 2.

To the extent that the Examiner asserts that the filter 8 in Franzreb corresponds to the head piece of claim 1 and the pole faces 6 correspond to the magnetizable bar, the filter 8 is not disposed on either of the poles. As described above, the filter 8 is disposed within a chamber 7 within the pipe system for the medium 2, and therefore cannot be disposed on either of the poles. Reciprocally, the pole faces 6 are not disposed on the filter 8, which therefore fails to meet the element of the claim that the magnetizable bars be disposed on the head piece. For at least these reasons, Franzreb cannot anticipate claim 1.

Claim 1 further calls for a material at least partially surrounding the movable magnet to screen the magnetic field. The Examiner asserts that the rotor 10 of Franzreb corresponds to the claimed material. However, the rotor 10 is provided for rotating the permanent magnet 9 to different positions for field strengths. (Col. 4, lines 28-37). Nowhere is it stated in Franzreb that the rotor 10 includes any material that screens the magnetic field caused by the permanent magnet 9. For this additional reason, Franzreb cannot anticipate claim 1. Applicant therefore respectfully requests reconsideration and withdrawal of the rejection of claim 1 over Franzreb.

Claims 2-10, 12-13, 22, and 27 are dependent upon claim 1. Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 2-10, 12-13, 22, and 27 over Franzreb due at least to their dependence on claim 1.

In particular with respect to claim 2, the Examiner asserts that Franzreb discloses the two limbs connected together at a side opposite to the poles. Applicant respectfully disagrees.

Franzreb discloses that the magnetic circuit 5 has two pole gaps 16, 17. The first pole gap 16 is between the flux conducting sections 5a, 5b, but the second pole gap 17 is located at the side of the circuit 5 opposite to the flux conducting sections 5a, 5b to make room for the rotor 10. Thus, the two limbs of Franzreb are not connected at all. For this additional reason, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 2.

Additionally, claim 12 cannot be met by the disclosure of Franzreb. Aside from the fact detailed above that Franzreb does not have a head piece, one of ordinary skill in the art would read claim 12 as calling for the head piece to be movable in a horizontal plane with respect to the device, and not with the device as a whole, which is implied by the Examiner's rejection. Shaking the device as a whole could be detrimental to the sample, the rotating magnet, or other working parts, and would therefore be illogical. For this additional reason, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 12.

Claim Rejections Under 35 U.S.C. § 103(a)

Claim 14

Claim 14 was rejected under 35 U.S.C. § 103(a) as being obvious over Franzreb. The Examiner asserts that Franzreb does not disclose a detachable head piece, but that it would be an obvious modification to make a component removable.

Claim 14 is dependent upon claim 1. As described above with respect to claim 1, Franzreb does not disclose a head piece at all. The Examiner's proposed modification is therefore moot because even if it were an obvious modification to make a component detachable, the component is entirely missing from the cited reference. However, even if the Examiner's proposed modification were proper, claim 14 still would not have been obvious over Franzreb because, as described above with respect to claim 1, Franzreb still lacks certain other elements of the claim, namely a magnetizable bar disposed on the head piece, and a material for screening the magnetic field from the movable magnet, and the Examiner has not proposed any further references in the rejection of claim 14 that would compensate for these deficiencies.

Accordingly, reconsideration and withdrawal of the rejection of claim 14 under 35 U.S.C. § 103(a) are respectfully requested.

Claim 16

Claim 16 was rejected under 35 U.S.C. § 103(a) as being obvious over Franzreb in view of U.S. Patent No. 6,409,925 (Gombinsky). The Examiner asserts that Franzreb does not disclose a strippable replaceable sheath or an envelope on the magnetizable bar. The Examiner therefore proposes to modify Franzreb using Gombinsky, which uses a disposable cover over a magnetizable tip, for the purpose of protecting the bar from damage during operation and movement.

Claim 16 is dependent upon claim 1. As described above with respect to claim 1, Franzreb fails to disclose several elements of the claims. Gombinsky fails to compensate for these deficiencies. Gombinsky discloses an elongated non-magnetic polypropylene member 73 with a particle collecting tip 74. The tip 74 is covered by a disposable cover 69 for maintaining sterility of the samples. An elongated magnetic field providing member 71 is slidable within the non-magnetic member 73 to allow the tip 74 to collect the magnetic particles. (Col. 10, lines 4-14). Gombinsky fails to disclose at least disposing a head piece on a pole and a magnetizable bar on the head piece, or a material for shielding a magnetic field from a rotating permanent magnet. Therefore, even if the Examiner's proposed modification to Franzreb by Gombinsky were proper, which Applicant does not admit, claim 16 still would not have been obvious because the references taken together fail to teach or suggest all of the elements of the claim. M.P.E.P. § 2143. Accordingly, reconsideration and withdrawal of the rejection of claim 16 under 35 U.S.C. § 103(a) are respectfully requested.

Claim 23

Claim 23 was rejected under 35 U.S.C. § 103(a) as being obvious over Franzreb in view of U.S. Patent No. 6,270,666 (Kamibayashi). The Examiner asserts that Franzreb does not disclose a heating or cooling means in connection with a separator. The Examiner therefore

proposes to modify Franzreb using Kamibayashi, which discloses a separator connected to a heater and a cooler, for the purpose of temperature regulation of fluid to be separated.

Claim 23 is dependent upon claim 1. As described above with respect to claim 1, Franzreb fails to disclose several elements of the claims. Kamibayashi fails to compensate for these deficiencies. Kamibayashi discloses a magnetic circuit unit 10 with a pair of yokes 12, 13 defining a magnetic treatment part 14. (Col. 4, line 60-col. 5, line 9). Kamibayahsi does not disclose a head piece disposed on any of the yokes 12, 13 or a magnetizable bar on the head piece, nor does Kamibayashi disclose a material for shielding a magnetic field from a rotating permanent magnet. Therefore even if the Examiner's proposed modification were proper, which as described below it is not, claim 23 still would not have been obvious because the references taken together fail to teach or suggest all of the elements of the claim. Accordingly, reconsideration and withdrawal of the rejection of claim 23 under 35 U.S.C. § 103(a) are respectfully requested.

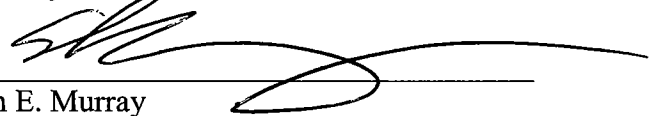
Further, claim 23 calls for the listed functions to be controlled by a common control. Franzreb discloses only a program for controlling the cycle of the fed and returned medium in cooperation with the magnetic field. (Col. 3, lines 22-27). Kamibayashi does not disclose a common control for the heater and cooler. Accordingly, for this additional reason, reconsideration and withdrawal of the rejection of claim 23 under 35 U.S.C. § 103(a) are respectfully requested.

CONCLUSION

In view of the foregoing amendment and remarks, Applicant respectfully submits that the present application, including claims 1-27, is in condition for allowance and such action is respectfully requested.

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Respectfully submitted,

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